IN THE CLAIMS:

Please amend the attached PCT Claims as follows:

1. (Original) A bulk fluid flow gate comprising:

a first fluid flow chamber; and

at least one electrode operative when energized to generate an electric field in the first fluid flow chamber;

wherein the first fluid flow chamber comprises

a first fluid inlet port configured to receive bulk fluid flow into the first fluid flow chamber,

a first fluid outlet port configured to pass bulk fluid from the first chamber,

a second fluid inlet port configured to receive sample fluid flow into the first fluid flow chamber at a location between the first fluid inlet port and the first fluid outlet port, and

a second fluid outlet port configured to pass fluid from the first fluid flow chamber, the first fluid outlet port and the second fluid outlet port being on opposite sides of the first fluid inlet port,

the bulk fluid flow gate when receiving a bulk fluid flow into the first fluid flow chamber via the first fluid inlet port and simultaneously a sample fluid flow into the first fluid flow chamber via the second inlet port, presenting greater hydrodynamic resistance to passing fluid from the first fluid flow chamber via the second outlet port than via the first fluid outlet port.

2. (Original) The bulk fluid flow gate of claim 1 wherein the first fluid flow chamber is a microscale chamber.

3. (Original) The bulk fluid flow gate of claim 1 wherein the second fluid inlet port is configured to receive fluid flow into the first fluid flow chamber at a flow rate lower than the first fluid inlet port.

4. (Original) The bulk fluid flow gate of claim 1 wherein at least a pair of electrodes is positioned proximate the first fluid flow chamber, being operative when energized to generate an electric field operative in the first fluid flow channel to move charged analyte received into the first fluid flow chamber via the second inlet port toward the second outlet port through a fluid flowing from the first inlet port to the first outlet port.

5. (Original) A bulk fluid flow gate comprising:

at least one electrode for generating an electric field;

a first chamber in communication with the at least one electrode, the first chamber comprising:

a first entry port for introducing bulk fluid into the first chamber,

a first exit port for exiting of bulk fluid from the first chamber,

a second entry port positioned between the first entry port and the first exit port, the second entry port for introducing sample into the first chamber, and

a second exit port,

in which bulk fluid introduced through the first entry port experiences substantially greater hydrodynamic resistance at the first exit port than at the second exit port.

6. (Cancelled)

7. (Original) The bulk fluid flow gate of claim 5 in which the bulk fluid flow gate comprises an electrode array.

8. (Original) The bulk fluid flow gate of claim 5 in which the first entry port is positioned at an obtuse angle to the axial direction of the first chamber.

9. (Original) The bulk fluid flow gate of claim 5 in which the first chamber further comprises separation media selected from the group consisting of molecular sieves, ion-exchange media, and size exclusion media.

10. (Original) The bulk fluid flow gate of claim 5 in which the first exit port is positioned downstream from the first entry port and the second entry port, and the second exit port is positioned upstream from the first entry port, the second entry port and the first exit port.

11. (Cancelled)

12. (Original) The bulk fluid flow gate of claim 5 in which each of the first and second exit ports is positioned parallel to the axial direction of the first chamber.

13. (Original) The bulk fluid flow gate of claim 5 further comprising an electrode housing containing the at least one electrode.

14. (Cancelled)

15. (Original) A method comprising:

providing a bulk fluid flow gate comprising:

at least one electrode for generating an electric field,

a first chamber in communication with the at least one electrode, the first chamber comprising an first entry port, a first exit port, a second entry port positioned between the first entry port and the first exit port, and a second exit port,

introducing a sample comprising at least one charged analyte into the first chamber through the second entry port;

applying an electric field to the first chamber; and

introducing bulk fluid into the first chamber through the first entry port, in which the bulk fluid flows substantially against direction of migration of the at least one charged analyte in the electric field of the first chamber, the bulk fluid flowing with sufficient hydrodynamic force such that the hydrodynamic resistance at the first exit port is substantially greater than the hydrodynamic resistance at the second exit port.

16. (Original) The method of claim 15 further comprising eluting the charged analyte from the second exit port.

17. (Original) The method of claim 15 further comprising eluting the charged analyte from the first exit port.

18. (Cancelled)

19. (Original) The method of claim 15 in which the sample is introduced into the first chamber using an injector.

20. (Cancelled)

21. (Original) The method of claim 15 in which the bulk fluid flow gate comprises an electrode housing containing the at least one electrode.

22. (Original) The method of claim 21 further comprising flowing coolant into the electrode housing.

23. (Original) The method of claim 15 in which force of the electric field exceeds hydrodynamic force generated by bulk fluid flow so that the analyte migrates towards the second exit port.

24. (Original) The method of claim 15 further comprising applying an electric field gradient to the first chamber.

25. (Cancelled)

26. (Original) The method of claim 15 further comprising adding lipids, micelles, detergent or vesicles to the sample prior to introducing the sample into the first chamber.

27. - 49. (Cancelled)

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